



Applicant Responsibilities and Plan Requirements for Mechanical Permits (ME and MR)

June 2002

This Client Assistance Memo (CAM) summarizes the Department of Design, Construction and Land Use (DCLU) requirements for mechanical permits requiring plan review. Permit applicants are encouraged to read this document before submitting an application, as the plans and information detailed in this CAM are required.

TYPES OF MECHANICAL PERMITS

DCLU issues three types of mechanical permits:

- **Mechanical Routed (MR)** - for projects valued at more than \$30,000. These require a mechanical engineer's signature and stamp.
- **Mechanical Expedited (ME)** - for projects valued at \$30,000 or less.
- **Over-the-Counter Mechanical (OTC)** - for projects valued at \$10,000 or less (see **CAM 104** for further description of OTC permits).

In order to apply for a mechanical permit (MR or ME), you will need at least two sets of detailed plans, similar to the drawings shown in this CAM, and a completed coversheet. The coversheet is a tool which summarizes and organizes required information so that DCLU intake staff and plan reviewers can find it quickly and easily. Be sure to fill out all applicable information listed on the coversheet before filing a permit application.

Coversheets are available from commercial print shops in Seattle; samples are available from the DCLU Applicant Services Center receptionist, located on the 20th floor of Key Tower at 700 Fifth Avenue, or by calling (206) 684-8850.

OVERVIEW OF REQUIRED INFORMATION

The following types of information are required by DCLU in order to consider applications for mechanical permits. If any required information is not included, the application may not be accepted.

Two complete sets of plans, which include the items detailed below and in the following pages:

1. General Information

- ☐ Completed Mechanical Plan coversheet
- ☐ Year of code this permit complies with.
- ☐ Vicinity map/site map (see **Sample 1**)
- ☐ Legal description of the property
- ☐ Assessor's Parcel Number
- ☐ Legend/abbreviation, general notes, and drawing title block (see **Samples 2 and 3**)
- ☐ Statement of financial responsibility when project exceeds \$50,000
- ☐ When architectural drawings are used, label them as mechanical drawings and remove all architectural information that does not pertain to this mechanical permit.
- ☐ All reference drawings shall be labelled as reference drawings
- ☐ Minimum size shall be 18" x 18"
- ☐ Plot plans must be to scale and fully dimensioned using minimum scale of 1/8" = 1" or 1" = 10.' All other plans must be 1/4" = 1' or larger. (see **Sample 4**)
- ☐ All plans must have a minimum of 1/8" lettering
- ☐ All plans must be microfilmable and easy to read
- ☐ Plans must be in ink; pencil is not acceptable
- ☐ Any related Building Permit numbers

2. Zoning Information

A. If equipment, ductwork, or louver is installed outside the building, such as on the rooftop, ground or exterior wall, provide the following zoning information:

- ☐ Distance of equipment, exterior ductwork, and louver from all property lines
- ☐ Distance of equipment, exterior ductwork, and louver from all surround buildings
- ☐ Distance of equipment, exterior ductwork, and louver from all adjoining walls
- ☐ Height of exhaust or other louvers above sidewalks
- ☐ Building identification number for all surrounding buildings (see Director's Rule 8-2000) if there are more than two buildings on the site
- ☐ Zoning of adjacent properties
- ☐ Width of adjacent rights-of-way (e.g., streets, alleys)

B. If equipment is on the roof, provide the following information:

- ☐ Elevation drawing showing the height from existing and finished grade to roof deck and top of mechanical equipment
- ☐ Show parapet or screening, if applicable.
- ☐ Show plan view of rooftop equipment.
- ☐ Show roof coverage calculation (square footage and percentage) for all new and existing equipment and structures, such as stair penthouses. (See page 7.)
- ☐ Include dimensioned open space plan and calculation, if required residential open space is being displaced by installation of equipment.
- ☐ Include floor area ratio (FAR) calculations, if site is in a commercial, downtown, or industrial zone. See specific zone for exemptions from FAR for structure existing as of specific dates.

C. If the property is within 200 feet of the shoreline, the project may be subject to shoreline development regulations, and the permit timeframe may be different. Provide the following information:

- ☐ Include a copy of any shoreline exemption you have received.

- ☐ Show shoreline setback line location on the site plan and on the rooftop plan view.

For assistance with the items listed in this section, use our online "Land Use Question and Answer Service" at www.cityofseattle.net/dclu/landuse or visit with a land use planner in the DCLU Applicant Services Center, located on the 20th floor of Key Tower at 700 Fifth Avenue.

D. If your project is on a landmark building or in an historic or special review district, contact the Department of Neighborhoods (DON) at (206) 684-0228 for assistance. Provide the following at application:

- ☐ Proof of application to DON for MR permits and DON written approval on plans for ME permits.

E. If you want to install equipment and ductwork in the public right-of-way (e.g., alleys or sidewalks), contact Seattle Transportation at (206) 684-5283. Provide the following information at application:

- ☐ Seattle Transportation Street Use permit

F. If mechanical equipment is to be installed in a parking garage, it may not displace a required parking space. Provide the following information:

- ☐ Required parking calculation. A complete parking plan will be required if the layout is changed to accommodate the equipment.
- ☐ On plans, show location and dimensions of mechanical equipment in the parking garage.

For additional information on the zoning requirements in this section, please use our online "Land Use Question and Answer Service" at www.cityofseattle.net/dclu/landuse or visit with a land use planner in the DCLU Applicant Services Center, located on the 20th floor of Key Tower at 700 Fifth Avenue.

3. Noise Information

Equipment installed on the roof, on the ground, outside the building, at an exterior wall, or inside the building may transmit noise to an exterior wall through duct and/or louver. The following noise information is required:

- ☐ Noise rating per ARI 270 (dBA) on equipment schedule.

- ☐ An acoustic report is generally required. However, if the equipment sound pressure level (dBA) rating is equal to or less than the requirement listed in **Table 1**, an acoustic report may not be required.

Example: A piece of HVAC equipment on a commercial building is 40 feet from the closest residential property line. The sound pressure of the equipment is 64 dBA at five feet. Since the sound pressure is below 65 dBA at 40 feet distance, an acoustic report is not required.

For more information on noise in commercial projects, read **CAM 118**, visit DCLU's Noise Abatement website at www.cityofseattle.net/dclu/noise, or call a Noise Abatement Coordinator at (206) 684-7843.

4. Mechanical Information

Please highlight all mechanical work on the following documents under this permit and provide the following information:

- ☐ Plan view (see **Sample 5**)
- ☐ Elevation view (see **Sample 6**)
- ☐ Section/detail view
- ☐ Equipment schedule (see **Sample 7**)
- ☐ Heating and cooling load calculation
- ☐ Commercial kitchen hood worksheet, if applicable

For additional information on mechanical permits, please call DCLU's Technical Backup for the Energy/Mechanical Code at (206) 684-7846.

5. Building Code Information

For projects involving equipment weighing more than 400 pounds, the following information is required, unless the equipment is installed on the ground:

- ☐ Show transfer of equipment load to the nearest supporting element, such as roof joist to bearing wall or to beam and column system.
- ☐ Structural calculation with structural engineer's stamp
- ☐ For replacement equipment, state the weight of the old and new equipment on the plans, and show the old and new location of the replacement equipment. If the new equipment weight is equal or less than the existing, and in the same location, structural calculations will not be required.
- ☐ For projects with new ductwork, provide architectural plans showing the location of corridors, occupancy separations, or other fire-rated construction. Copies of these drawings from the original permit are acceptable.

For additional information, please call DCLU's Technical Backup for the Building Code at (206) 684-4630.

Table 1. Sound Pressure Level vs. Distance from Private Property Line in Feet

Minimum distance from private property line in feet ¹		5	10	20	40	80	100	160
Maximum rated sound pressure level (dBA) allowed ²	Residential to residential ³	45	51	57	63	69	71	75
	Commercial to residential ⁴	47	53	59	65	71	73	77
	Commercial to commercial ⁵	60	66	72	78	73	86	90

¹ Installed equipment shall have a minimum distance from the closest private property line in feet

² Manufacturer provided sound power level (LWA) in dBA at ARI 270. Convert to sound pressure level before applying the chart with this formula: Sound power level minus 12 dBA = sound pressure level (spl) at 5 ft. distance.

³ Equipment installed in residential property to the closest residential property line

⁴ Equipment installed in commercial property to the closest residential property line

⁵ Equipment installed in commercial property to the closest commercial property line

6. Fire Information

The Seattle Fire Department will review projects with the following equipment. Provide the following information:

- ☐ High-rise shell and core mechanical system (not including tenant improvement mechanical system)
- ☐ High-rise fire and life safety equipment, such as
 - Smoke management systems: provide schematic drawings, design parameters, and activation matrix.
 - Stair and elevator pressurization fans: identify on drawings and provide schematic drawings.
 - Emergency generator. Provide fuel tank, fuel venting line, and fuel fill plan.
- ☐ Fume hood. See DCLU Director's Rule 5-89. Provide hazardous material inventory statement. (HMIS)
- ☐ Spray paint booth. Provide spray booth detailed drawings and ventilation calculations.
- ☐ Fuel tank of any size and located anywhere
- ☐ Mechanical ventilation systems for any group H occupancy, e.g., chemical storage room, battery room, repair garage, paint manufacturing area, etc.

For additional fire information, call the Fire Department at (206) 386-1443.

7. Additional Permits Required

- ☐ Boiler and/or pressure vessel. For applicable forms and assistance, call DCLU Over-the-Counter Permits at (206) 684-8464. OTC forms are also available at www.cityofseattle.net/dclu/publications/forms.
- ☐ Refrigeration system such as split system cooling equipment, chiller, DX system, refrigerant piping (does not include self-contained refrigeration system). For forms or assistance call (206) 684-8464 or visit the web address highlighted above.
- ☐ Plumbing. Call King County at (206) 684-5198.
- ☐ Water heater. Call King County at (206) 684-5198.
- ☐ Gas piping. Call King County at (206) 684-5198.
- ☐ Sprinkler system. A building permit is required. Call the DCLU Applicant Services Center at (206) 684-8850.
- ☐ Equipment and ductwork installed in the public right-of-way (e.g., alley or sidewalk). A Street Use Permit from Seattle Transportation is required; call (206) 684-5283.
- ☐ Fuel storage tank of any size. Obtain a combustible liquid permit from the Fire Department; call (206) 386-1450.

- ☐ Paint spray booth of any size. Obtain a spray finishing permit from the Fire Department at (206) 386-1450.
- ☐ Electrical wiring to HVAC system. Obtain an electrical permit. Call DCLU OTC Permits at (206) 684-8464.
- ☐ Low voltage control wiring system. Obtain a low voltage electrical permit for each system. Call DCLU OTC Permits (206) 684-8464.
- ☐ Fume hood. A building permit is required for a fume hood, unless the existing establishment is a lab or hospital. For information about changing a use, call the DCLU Applicant Services Center at (206) 684-8850.
- ☐ Commercial kitchen hood. A building permit to change the use may be required if the building or space is not already established as a food preparation establishment (e.g., restaurant) in DCLU's records. For permit information, call the Applicant Services Center at (206) 684-8850. To schedule a Fire Department inspection of the hood fire suppression system or to obtain a fire suppression permit, call (206) 386-1443.

FEES

Your application consists of complete plans with a Mechanical Coversheet, and will not be accepted unless accompanied by a fee. For fee information, see the current Fee Ordinance online at www.cityofseattle.net/dclu/about/dclufees.htm, or visit the DCLU Public Resource Center, located on the 20th floor of Key Tower at 700 Fifth Avenue.

HELPFUL INFORMATION

Permit applicants are encouraged to read the DCLU documents listed below before submitting an application.

Client Assistance Memos (CAMs)

- **CAM 103:** Plot Plan Requirements
- **CAM 103A:** Plot Plan Guidelines
- **CAM 104:** Getting an OTC (Over-the-Counter) Permit
- **CAM 106:** General Standards for Plans and Drawings
- **CAM 118:** Making Sure Your Commercial Project Meets Seattle's Noise Ordinance Requirements

- **CAM 209:** Master Use Permit Application Requirements for Shoreline Permits
- **CAM 338:** Public and Private Transformer Vaults
- **CAM 404:** True Seven-Day Programmable Thermostats
- **CAM 406:** Outdoor Air Quality in the Puget Sound Area and Building Ventilation Implications
- **CAM 418:** User's Guide to Achieving a Fire-Rated Shaft with YYET Products
- **CAM 419:** Commissioning for Nonresidential Mechanical and Lighting Systems

Director's Rules (DRs)

- **DR 7-2002:** Alterations to Water-Source Heat Pump Systems in Existing Buildings (*this rule is currently in draft form and expected to be finalled in Summer 2002*)
- **DR 5-2002:** Exceptions to Installing Fire and Smoke Dampers in Exhaust Only Shafts in other than Highrise Buildings – Prescriptive Path (*this rule is currently in draft form and expected to be finalled in Summer 2002*)
- **DR 9-2001:** Exceptions for Installing Fire and Smoke Dampers in Exhaust Shafts by a Continuously Operating Fan
- **DR 8-2000:** Building Identification Plan Requirement for Properties Having More than Two Buildings
- **DR 22-99:** Adoption of ASME Boiler and Pressure Vessel Code Addenda
- **DR 21-99:** Variances from the Standards of the Noise Control Code SMC 25.08
- **DR 14-98:** Commercial Kitchen Exhaust Hood and Ducts: Standard Alternatives For Exhaust Duct Termination at Locations Other than the Building Rooftop
- **DR 12-97:** Non-Metallic Piping Used in Compressed Air Systems
- **DR 31-96:** Adoption of 1995 National Board of Boiler and Pressure Vessel Inspectors Inspection Code (ANSI NB-23)
- **DR 28-96:** Structural Support of Ducts and Mechanical Equipment
- **DR 18-96:** Seismic Bracing of Ducts
- **DR 6-96:** Duties and Responsibilities of Insuring Company Inspectors - Boiler and Pressure Vessel Inspection
- **DR 5-89:** Guidelines for Preparation and Review of Building Permit Applications for Laboratory Construction and Laboratory Hood Installation
- **DR 4-89:** Determination of Residential Setbacks in the Shoreline District

- **DR 27-88:** Exemptions from Shoreline Program Permit Requirements

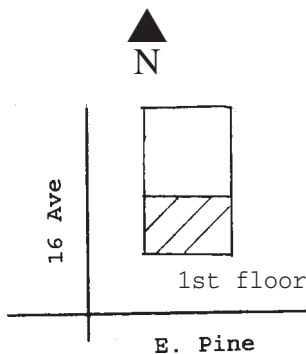
Details on obtaining these publications are included in the box below.

Access to Information

Links to electronic versions of DCLU **Client Assistance Memos (CAMs)**, **Director's Rules**, and the **Seattle Municipal Code** are available on the "Publications" and "Codes" pages of our website at **www.cityofseattle.net/dclu**. Worksheets and application forms are located at **www.cityofseattle.net/dclu/forms**. Paper copies of these documents, as well as additional regulations mentioned in this CAM, are available from our Public Resource Center, located on the 20th floor of Key Tower at 700 Fifth Avenue in downtown Seattle, (206) 684-8467.

PLEASE NOTE: DCLU public information documents should not be used as substitutes for codes and regulations. Details of your project should be reviewed for specific compliance by DCLU staff.

Sample 1: Vicinity/Site Map



Assessor's Parcel Number
Legal Description
Address

Sample 2: Legend

- ☒ supply
- ☐ return
- ☒☒ transfer grill
- ~ flex duct
- F fire damper
- FS fire/smoke damper
- ┌ volume damper
- Ⓣ thermostat

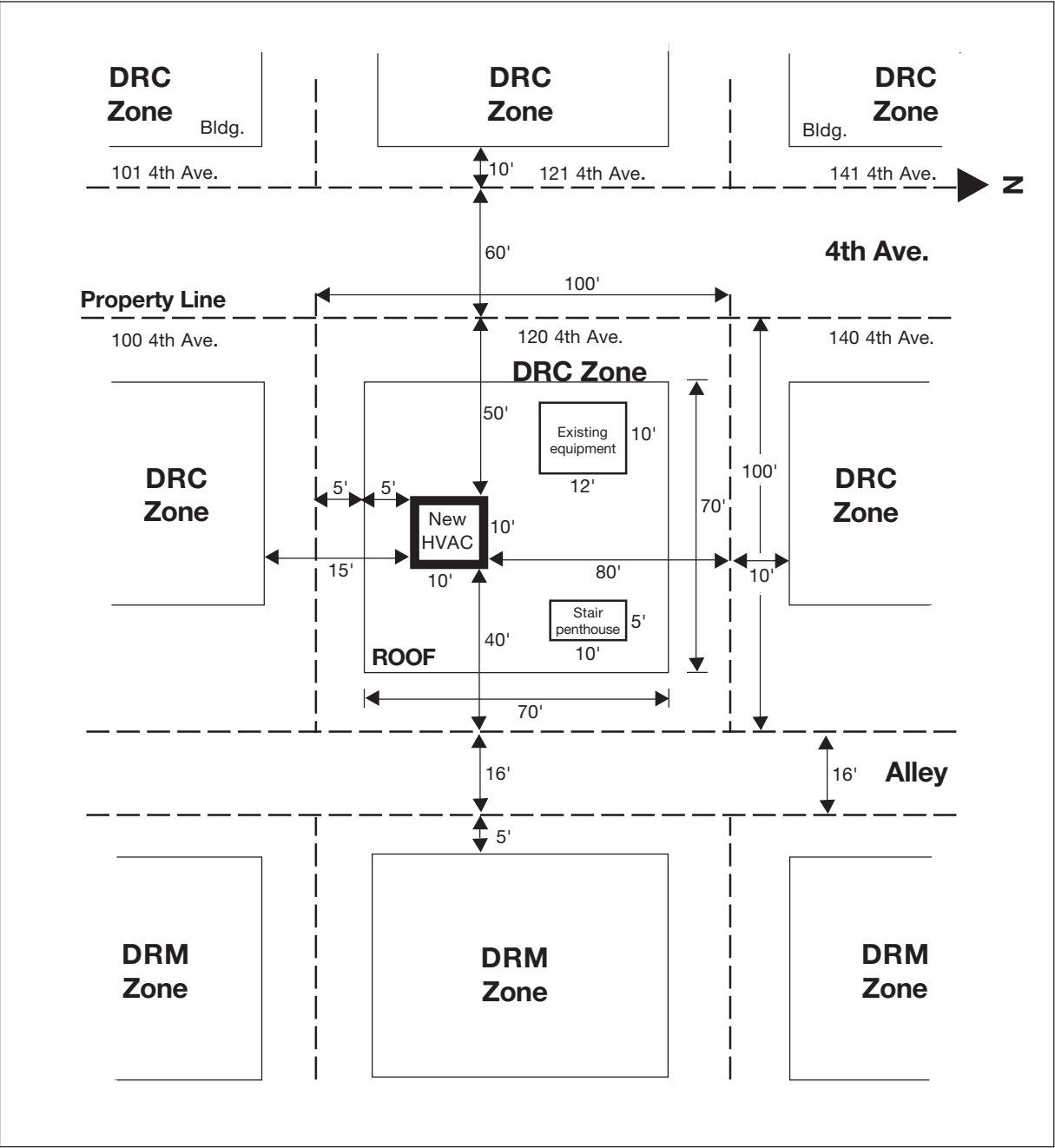
Sample 3: General Notes and Title Block

1. Provide 7-day programmable thermostat.
2. Duct insulation shall be R7 for duct installed above ceiling insulation or exterior.
3. Duct gauges shall be per 1994 SMC Table 6.
4. Outside air intake shall be 10' from exhaust outlet.

Drawing Title Block

Project Name
Project Address
Plan Date
M 1/1

Sample 4. Plot Plan with Mechanical Equipment Information

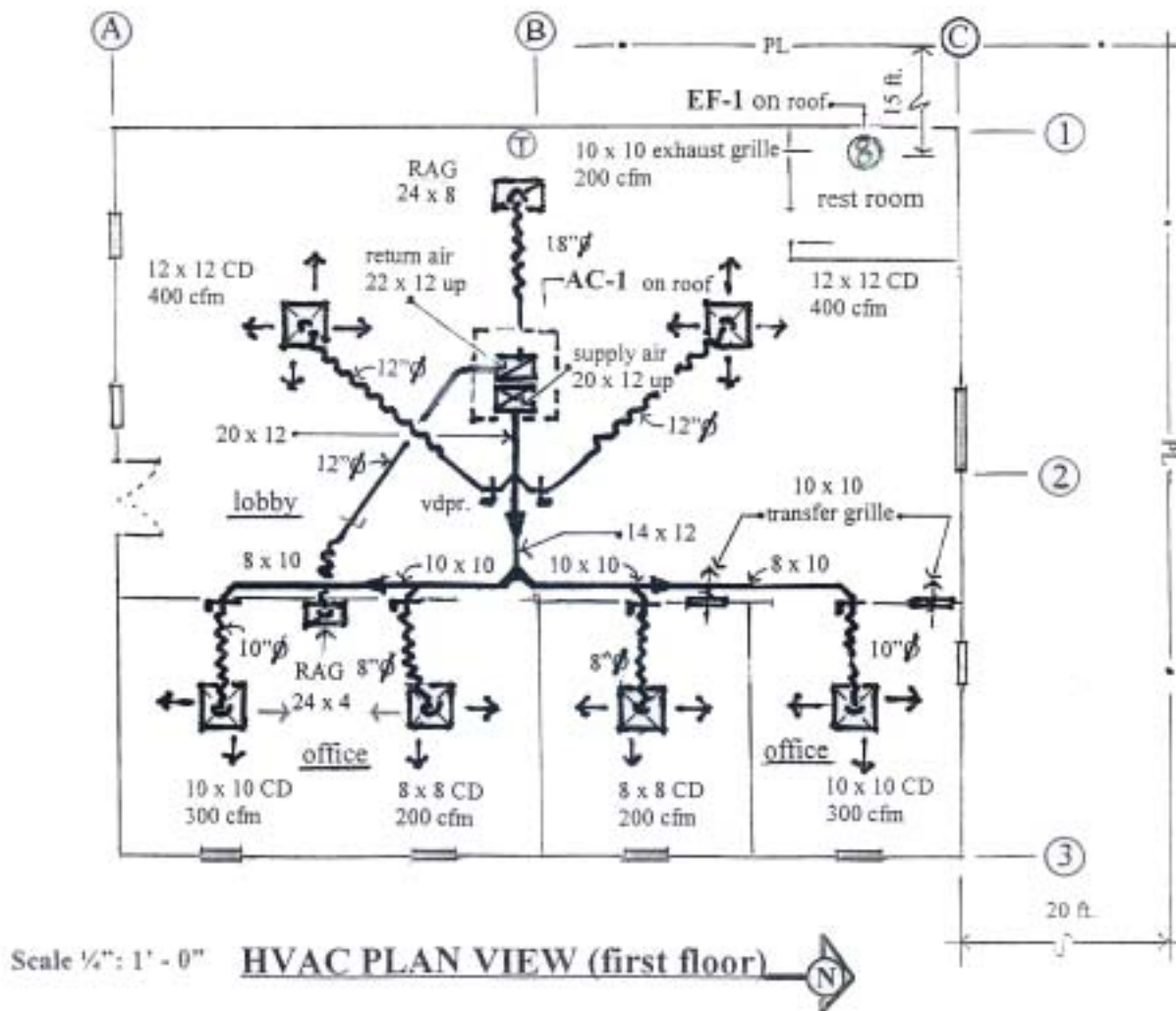


DRAWING NOT TO SCALE

Roof Coverage Calculation

$$\frac{\text{Equipment + Structure on Roof}}{\text{Roof Area}} = \frac{\text{New HVAC (10x10) + Existing Equipment (12x10) + Stair Penthouse (5x10)}}{70x70} \times 100\% = 5.5\%$$

Sample 5. Plan View



Sample 7. Equipment Schedules

HVAC Equipment Schedule

Unit #	Brand Name	Model #	Nominal Tonnage	Total CFM	OSA CFM	ECON Cycle	SP	HP/BHP	COOLING			HEATING			DBA *	Weight (lbs) **	Location service
									Total (BTUH)	Sensible (BTUH)	SEER/ EER	IPLV	Input (BTUH)	Output (BTUH)	COP/HSPF Comb. Eff./AFUE		
1																	
2																	
3																	
4																	
5																	
6																	

* Noise rating per ARI 270.

** Structural Support Calculation: Total equipment weight 400 lbs. or more requires Professional Structural Engineer calculation and stamp.

Fan Equipment Schedule

Unit #	Brand Name	Model #	CFM	SP	HP/BHP	DBA *	Feature VAV/Const. vol./	Location service
1								
2								
3								

* Noise rating per ARI 270.